

## CLAIMS

1. System for sensing at least one characteristic parameter of a tyre fitted to a vehicle comprising:
    - 5 • a movable unit combined with said tyre,
    - said movable unit comprising a device for sensing said at least one characteristic parameter and a device for transmitting out of the tyre a signal relating to said at least one characteristic
    - 10 parameter,
    - a fixed unit combined with said vehicle that includes a device for receiving signals from said movable unit,characterized in that
  - 15 said movable unit comprises an electrical energy generating device capable of supplying said sensing device and said transmitting device, that comprises a capacitor that charges itself with electrical energy in response to the mechanical stresses applied to said
  - 20 tyre.
2. System according to Claim 1, in which said capacitor comprises a fixed plate and a movable plate which move with respect to each other in response to
  - 25 said stresses.
3. System according to Claim 2, in which said fixed plate and said movable plate can vary their distance in response to said stresses.
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4. System according to Claim 1, in which said fixed plate and said movable plate are connected to each other by a pair of springs.
- 35 5. System according to Claim 1, in which said fixed plate and said movable plate are connected to a fixed support and to a movable support, respectively.
6. System according to Claim 2, in which the movement

of this movable plate is bounded by a pair of end stop elements.

7. System according to Claim 1, in which said sensing device, said transmitting device, said processing unit and said generating device are produced on a substrate.

8. System according to Claim 7, in which said movable unit is produced by MEMS technology.

9. Movable unit for sensing at least one characteristic parameter of a tyre fitted to a vehicle comprising, a device for sensing said at least one characteristic parameter and a device for transmitting out of the tyre a signal relating to said at least one characteristic parameter, characterized in that it comprises an electrical energy generating device capable of supplying said sensing device and said transmitting device, that comprises a capacitor that charges itself with electrical energy in response to the mechanical stresses applied to said tyre.

11. Vehicle wheel comprising

- a tyre,
- a supporting rim for said tyre,
- a movable unit combined with said tyre comprising a device for sensing at least one characteristic parameter of said tyre and a device for transmitting out of the tyre a signal relating to said at least one characteristic parameter,

characterized in that said movable unit comprises an electrical energy generating device capable of supplying said sensing device and said transmitting device, that comprises a capacitor that charges itself with electrical energy in response to the mechanical stresses applied to said tyre.